

U.S. Application No. 10/008,791

Filed: November 13, 2001

PROCESS FOR PREPARING SOLUBILIZATION ADJUVANTS FROM FUSEL OILS AND SACCHARIDES

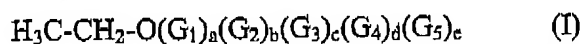
Claims as of response of September 23, 2003

1. A process for preparing a solubilization adjuvant, comprising:  
removing the light fractions from the fusel oils which have boiling points of less than 100°C;  
placing fusel oils in contact with one or more reducing sugars in the presence of an acid catalyst, at a temperature of between 50°C and 130°C while removing the water from the reaction medium;  
obtaining a solution of alkyl glycosides; and  
separating the glycosides from this solution.
2. The process according to Claim 1, comprising, before the placing in contact with one or more reducing sugars, removing the heavy fractions from the fusel oils which have boiling points of greater than 140°C.
3. The process according to Claim 2 comprising removing the heavy fractions from the fusel oils which have boiling points of greater than 140°C, by distillation.
4. (Cancelled)
- 4/5. The process according to Claim 1 comprising removing the light fractions from the fusel oils which have boiling points of less than 100°C, by distillation.
- 5/6. The process according to Claim 1, comprising using, as reducing sugars, pentoses selected from the group consisting of L-arabinose and D-xylose.
- 6/7. The process according to Claim 1, comprising using glucose as reducing sugar.

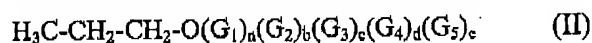
78. The process according to Claim 1, comprising using, as reducing sugars, sugar mixtures comprising, on a weight basis, from 25% to 100% of pentoses selected from the group consisting of L-arabinose and D-xylose, and 0% to 75% of hexoses selected from the group consisting of D-glucose, D-galactose and D-mannose.

89. An adjuvant, comprising, on a weight basis:

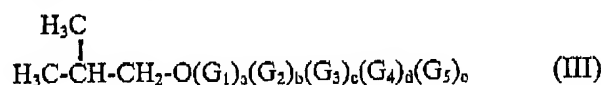
- from 0% to 20 % of a mixture of polyglycosides of formula (I):



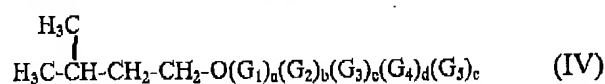
- from 0% to 5% of a mixture of polyglycosides of formula (II):



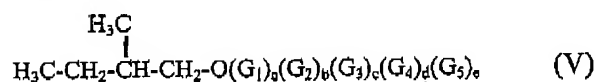
- from 0% to 15% of a mixture of polyglycosides of formula (III):



- from 20% to 80% of a mixture of polyglycosides of formula (IV):



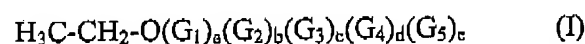
- from 10% to 40% of a mixture of polyglycosides of formula (V):



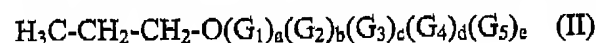
in which  $\text{G}_1$ ,  $\text{G}_2$ ,  $\text{G}_3$ ,  $\text{G}_4$ , and  $\text{G}_5$  are, independently of each other, residues of a saccharide selected from the group consisting of hexoses and pentoses; a, b, c, d, and e being equal to 0 or 1, the sum of a, b, c, d, and e being at least equal to 1 and wherein the combination of compounds I, II, III, IV, and V, excluding any alkyl glycosides other than the compounds I, II, III, IV and V, represents 100%.

910. An adjuvant comprising at least, on a weight basis:

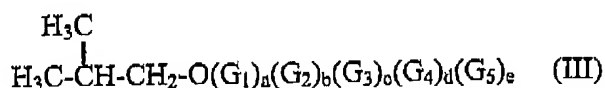
- from 0% to 20 % of a mixture of polyglycosides of formula (I):



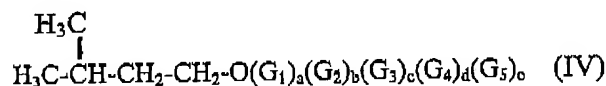
- from 0% to 5% of a mixture of polyglycosides of formula (II):



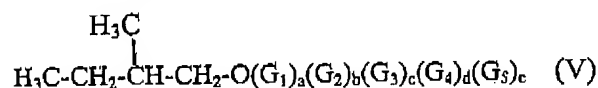
- from 0% to 20% of a mixture of polyglycosides of formula (III):



from 45% to 80% of a mixture of polyglycosides of formula (IV):



from 10% to 40% of a mixture of polyglycosides of formula (V):



in which  $\text{G}_1$ ,  $\text{G}_2$ ,  $\text{G}_3$ ,  $\text{G}_4$ , and  $\text{G}_5$  are, independently of each other, residues of a saccharide selected from the group consisting of hexoses and pentoses;  $a$ ,  $b$ ,  $c$ ,  $d$ , and  $e$  being equal to 0 or 1, the sum of  $a$ ,  $b$ ,  $c$ ,  $d$ , and  $e$  being at least equal to 1 and wherein the combination of compounds I, II, III, IV, and V, excluding any alkyl glycosides other than the compounds I, II, III, IV and V, represents 100%.

- 10 ~~11~~. The adjuvant according to Claim ~~9~~<sup>8</sup>, comprising at least, on a weight basis:
- from 60% to 75% of a mixture of polyglycosides of formula (IV),
  - from 25% to 40% of a mixture of polyglycosides of formula (V).

Claims 12-14. (Cancelled)

- 11 ~~15~~. A composition, comprising at least, on a weight basis:
- 10% to 60% of adjuvant according to Claim ~~9~~<sup>8</sup>
  - 40% to 90% of nonionic, anionic, amphoteric or cationic surfactants, or mixtures thereof.

- 12 ~~16~~<sup>11</sup>. The composition according to Claim ~~15~~<sup>11</sup> comprising, on a weight basis:
- 40% to 90% of nonionic surfactants.

- 13 ~~17~~. A composition comprising, on a weight basis:
- 10% to 60% of adjuvant according to Claim ~~9~~<sup>8</sup>

- 40% to 90% of alkyl polyglycosides containing from 8 to 22 carbon atoms on the alkyl chain.

<sup>14</sup>18. A composition, which comprises, on a weight basis:

- 0.5% to 5% of adjuvant according to Claim <sup>8</sup>9,
- 2% to 7% of alkyl polyglycosides containing from 8 to 14 carbon atoms on the alkyl chain,
- 1% to 10% of linear or branched alkanols containing from 2 to 5 carbon atoms, or mixtures thereof,
- 0.1% to 3% of lipophilic active substances to be dissolved.

<sup>15</sup>19. A composition comprising, on a weight basis:

- 0.5% to 5% of adjuvant according to Claim <sup>8</sup>9,
- 1% to 10% of alkyl polyglycosides containing from 8 to 14 carbon atoms on the alkyl chain,
- 1% to 10% of linear or branched alkanols containing from 2 to 5 carbon atoms, or mixtures thereof,
- 0.1% to 2% of essential oil,
- 0% to 0.5% of preserving agent.

<sup>16</sup>20. The composition according to Claim <sup>15</sup>19, wherein the essential oil is selected from the group consisting of pine oil, lemon oil, orange oil, mandarin oil, grapefruit oil, lavender oil, mint oil, thyme oil, rosemary oil and eucalyptus oil.

21. A composition comprising an adjuvant according to Claim 9 wherein said composition is a cosmetic.

22. A composition comprising an adjuvant according to Claim 9 wherein said composition is a dermocosmetic.

23. A composition comprising an adjuvant according to Claim 9 wherein said composition is a pharmaceutical composition.

24. A composition comprising an adjuvant according to Claim 9 wherein said composition is a plant-protection product.

1725. The adjuvant according to Claim <sup>8</sup>9 wherein the saccharide is selected from the group consisting of arabinose and xylose.

H:\DOCS\CS\FLEC16\FLEC16\_CLAIMS.DOC  
123003